Instructional Technology for Teaching and Learning: Designing Instruction, Integrating Computers, and Using media

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Textbook details:
Instructional Technology for Teaching and Learning: Designing Instruction, Integrating Computers, and Using media
Newby, T., Stepich, D., Lehman, J. & Russell, J.
2000, 2nd ed., Columbus, OH: Prentice-Hall

This book is not just a recipe of ideas for teachers to use educational technologies in their classroom. It contains some powerful pedagogical strategies to encourage teachers to reflect on their own practice when confronted with the use of these technologies in teaching and learning.

The authors spend some time explaining why this book was written, how it is organised and how to use it going so far as to say “if we were studying this textbook, we would…..”(p.2) and prescribing a reading approach. They have defined the work as a textbook and it is targeted at pre-service and in-service teacher education. Indeed, the work seems to be a self contained course that tries to bring together three aspects of technology use in education: how instruction is designed, developed and improved; the types and uses of different media formats – especially the use of the personal computer; and how the design of instruction and media can be integrated to promote student learning (p.1).

The organisation of the text is very clear using the acronym of PIE representing the model of – planning, implementing, evaluating – and chapters are grouped around this. It is good to see a text emphasising the planning aspect of helping teachers to integrate technologies into their teaching and learning programmes as this is often the part that teachers have difficulty with. There is also a strong focus on learning theories and these underpin the advice and guidance given in the book.

Given this focus, I find it difficult to understand the use of the term instructional technologies. Because to my mind, this has connotations of a more didactic approach to teaching and learning. I would have preferred the use of educational technologies which I feel is more compatible with a learner centered approach. Furthermore, I wonder why the writers do not use the term teacher as the majority of people who will use this text are almost certain to be teachers, not instructors. To me, the term learner-centered instruction is an oxymoron.

The inclusion of reflective questions and activities for teachers is a sound feature of this book because only by teachers engaging in this reflective process will they be able to fully integrate and understand the implications of using these technologies for student learning. In the Preface, the authors state that these are to “help readers think about the ramifications and application of many of the principles that are discussed” (p.vi). Examples of the use of specific technologies in the learner-centered classroom are given and the story of one teacher’s journey is advanced throughout the book. These features help teachers think in terms of their own experiences thus aiding the process of transferring theory into practice.

Other features included in the book are Toolboxes. These can be one of three types, tips, tools or techniques and a useful feature is that they are positioned close to relevant text materials in each chapter. A chapter is devoted to the evaluation of instructional materials and the assessment of student performance. Here again I have difficulty with the term instruction. Why not refer these resources as teaching materials? A variety of innovative assessment techniques such as electronic portfolios, logs and journals, writing samples and interviews, are given to help teachers evaluate student performance and a whole toolbox is provided that contains advice on the use of electronic portfolios.
This book contains valuable advice and guidance for pre-service and in-service teachers regarding the integration of educational technologies into their teaching and learning programmes. Especially valuable is the emphasis on learning theories and the use of a variety of pedagogical strategies to encourage reflective practice.
Technology for Learning and Teaching: Empowers educators to efficiently personalize learning with access to data, content and the cloud. Prepares students for the 21st century workforce with modern technology skills and competencies. On the path to personalizing learning, technology empowers students by giving them ownership of how they learn, making education relevant to their digital lives and preparing them for their futures. With technology and access to resources beyond classroom walls, students are inspired to become problem-solvers, critical thinkers, collaborators, and creators. Where technology has been successfully integrated into classrooms, students develop a lifelong love of learning. Educators are always striving to personalize learning for students. Are the term Instructional Technology and Educational Technology considered synonymous? Instructional technology is a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication and employing a combination of human and non-human resources to bring about more effective instruction [3].

Integration of information technology into teaching and learning process becomes inevitable. Also in preparing these students, classroom use of technological tools and applications must be supported so that instructional delivery should be classified as a teaching device because computer cannot substitute a teaching device. Afolabi, Adedapo and Adeyanju (2005) posit that ICT facilities are not utilized in teaching and learning in Oyo State college of education.
Instructional technology is a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication and employing a combination of human and non-human resources to bring about more effective instruction [3]. President’s Commission on Instructional Technology (PCIT).

Instructional Technology is the Development (Research, Design, Production, Evaluation, Support-Supply, Utilization) of Instructional Systems Components (Messages, Men, Materials, Devices, Techniques, Settings) a Start studying Integrating Instructional Technology (#2). Learn vocabulary, terms and more with flashcards, games and other study tools. Using this technology resource, one can simulate the functions of the physical recording studio in which music is recorded on tracks and assigned to channels for playback and editing, sequencing program. This new resource makes it possible for museums to provide a better, more realistic "visit" for their virtual visitors. Instructional design theories and layers of design 1. Content layer 2. Strategy layer 3. Message layer 4. Control layer 5. Representation layer 6. Media logic layer 7. Data management layer. The Role of Instructional Theory in Educational Reform. Learner-centered psychological principles The science of learning New paradigm of instructional theory (volume 2) Cognitive flexibility theory, personalized learning, brain-based learning, and differentiated instruction. Understanding Instructional Theory 5. The Nature of Instructional Theories: Constructs and Terms. Vague and inconsistent language is impeding such growth. Different theorists use the same term to refer to different things and different terms to refer to the same things.